

HILARIA ANNUA (GRAMINEAE), A NEW SPECIES FROM MEXICO

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ABSTRACT

Hilaria annua from the state of Colima, Mexico, is described as new. This, the first annual species known in the genus, is clearly related to *H. ciliata* (Scribn.) Nash. It differs from that species in its annual habit, somewhat smaller spikelets, and chromosome number which is tetraploid ($2n = 36$) rather than octoploid ($2n = 72$).

RESUMEN

Se describe *Hilaria annua* del estado de Colima, México como especie nueva. Se trata de la primera especie anual conocida para el género, la cual es similar a *H. ciliata* (Scribner) Nash. No solo se distingue por su condición anual, sino también por tener espiguillas algo más pequeñas y por el número cromosómico. La especie nueva es tetraploide ($2n = 36$) y *H. ciliata* es octoploide ($2n = 72$).

The genus *Hilaria* (s.l.) comprises a small group of grasses that inhabit arid and semi-arid regions and range from southwestern United States to Guatemala. The inflorescence is a narrow terminal spike, with spikelets borne in groups (fascicles) of three at the nodes, falling entire from the axis when mature. In each fascicle the two lateral spikelets are staminate and usually at least 2-flowered; the central one is 1-flowered, pistillate or perfect. Species of *Hilaria* fall quite naturally into two groups which currently are usually treated as subgenera. The distinctions characterizing these subgenera are summarized in the following key:

1. Glumes thin, membranous, not fused nor indurate at their bases; central spikelet 1-flowered, perfect Subgenus *Pleuraphis*
1. Glumes indurate, fused at their bases; central spikelet pistillate Subgenus *Hilaria*

In the most recent revision of the genus *Hilaria* (Sohns 1956), nine species and one variety are recognized. Sohn's stated that taxa in both subgenera are remarkably uniform vegetatively: i.e., all are strong perennials and most are either stoloniferous or rhizomatous. It was somewhat of a surprise, therefore, when we encountered what appeared to be a weedy annual *Hilaria* growing in abundance in two different areas a short distance south of Cd. Colima, México. These plants are members of the subgenus *Hilaria* and superficially resemble *H. ciliata* (Scribn.) Nash, a species also found in that region.

They differ not only in being annual, but in having smaller spikelets and a chromosome number of $2n = 36$. All chromosome counts of *H. ciliata* reported to date are $2n = 72$.

Our gatherings were made in 1974. Since that time we have seen no other collections of an annual *Hilaria*, nor does McVaugh (1983) mention any annual species in his treatment of this genus. Differences which separate plants of our collections from others in the group, however, suggest that they represent a previously unrecognized species which is described below.

***Hilaria annua* J. & C. Reeder, sp. nov. (Fig. 1).**

Gramina annua, caespitosa; culmi 40–50(–60) cm alti, erecti vel interdum geniculato-adscendentes, nodis radicanes, papilloso-pilosis; culmi gracili, glabri, ramosi. Vaginae glabrae vel plus minusve papilloso-pilosae, quam internodiis breviores; ligula membranaceo-hyalina, ciliata, 2–3 mm longa; laminae 10–20(–30) cm longae, usque ad 3.5–5 mm latae, planae, plerumque glabrae sed supra interdum sparsim papilloso-pilosae, marginibus scabrae. Spicae usque ad 5 cm longae, densiflorae, articuli rhachis 4–4.5 mm longi, plani, gracillimi, ca. 0.3 mm lati, marginibus brevi ciliati; fasciculi 4–4.5 mm longi, pallidi vel niger-purpurascens. Glumae induratae, papillo-sae, plus minusve valde nervosae, marginibus scabri vel brevi ciliati; spiculae laterales masculae, plerumque uniflores, interdum bi- vel triflores, lemmata hyalina, ca. 3.5 mm longa, 3-nervis. Antheris ca. 2 mm longis; spicula intermedia uniflora, feminina, lemmata ampulliforma, 3-nervis, ca. 4.5 mm longa, basi hyalini, apice aliquanti apicibus membranacibus. Caryopside translucida, ca. 1.8–2 mm longa, embryo fuscus, caryopsidi fere aequilongus. Chromosomatum numerus: $2n = 36$.

Plants annual, caespitose; culms 40–50(–60) cm tall, slender, glabrous, branching, erect to somewhat ascending and rooting at the papillose-pilose nodes. Sheaths shorter than the internodes, glabrous or more or less papillose-pilose; ligule membranous-hyaline, ciliate, 2–3 mm long; blades flat, 10–20(–30) cm long, 3.5–5 mm wide, mostly glabrous but sometimes sparsely papillose-pilose on the adaxial surface, the margins scabrous. Spikes (3.5–)4–5 cm long, densely flowered, the rachis joints flat, slender, 2.5–4 mm long and ca. 0.3 mm wide, the margins ciliolate; fascicles 3.5–4.5 mm long, pale or becoming somewhat blackish-purple. Glumes indurate, minutely papillose, the nerves prominent, especially toward the apex, the margins scabrous to ciliolate; lateral spikelets staminate, mostly 1-flowered, sometimes 2- or 3-flowered, lemma hyaline, 3-nerved, about as long as the glumes. Anthers ca. 2 mm long; central spikelet pistillate, 1-flowered, the glumes slightly shorter than the fascicle, with one (rarely two) lateral, flattened, scabrous to short-ciliate awns,



FIG. 1. *Hilaria annua*. Photograph of the holotype (J. R. & C. G. Reeder 6333).

these reaching to the apex of the glume; lemma flask-shaped, ca. 4.5 mm long, 3-nerved, basal portion hyaline, the upper part somewhat membranous. Caryopsis whitish, translucent, 1.8–2 mm long, the embryo brownish, nearly as long as the grain. Chromosome number: $2n = 36$.

TYPE: MEXICO: Colima, 10 km s. of Cd. Colima, abundant along roadside with other rank weeds, 300 m, 24 Sep 1974, *J. R. & C. G. Reeder 6333* (holotype: ARIZ; isotypes: MEXU, MICH, RM, US).

PARATYPE: MEXICO: Colima, 5 km s. of Cd. Colima, frequent with other weeds amongst thorny shrubs, 430 m, 24 Sep 1974, *J. R. & C. G. Reeder 6331* (ARIZ, RM, UC, US). This collection certainly represents the same species, but exhibits minor differences. The plants are clearly annual, but more profusely branched, and the culms tend to be more ascending, some of them rooting at the lower nodes. The shorter spikes average 2–3 cm long rather than 4–5, and the fascicles are slightly smaller, averaging 3.5–4 mm long, rather than 4.0–4.5 mm as in the type. The chromosome number of this collection also was determined as $2n = 36$.

LITERATURE CITED

- McVAUGH, R. 1983. *Flora Novo-Galiciana*. A descriptive account of the vascular plants of western Mexico. Vol. 14. Gramineae. Univ. Michigan Press, Ann Arbor.
- SOHNS, E. R. 1956. The genus *Hilaria* (Gramineae). *J. Wash. Acad. Sci.* 46:311–321.

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ANNOUNCEMENT

NEW PUBLICATION

GRIFFIN, J. R., P. M. McDONALD, and P. C. MUICK, compilers. 1987. *California oaks: a bibliography*. U.S.D.A. Forest Service, Pacific Southwest Forest and Range Experiment Station, Gen. Tech. Rep. PSW-96, Berkeley, CA. 38 pp. [California oaks continue to attract considerable attention among natural resource professionals. This report provides a comprehensive bibliography of the extensive but scattered oak literature. The 768 references are organized into two systems: (a) a topical outline, in which references are displayed under key word headings and subheadings, and author-date entries that help to locate items by researcher or date; and (b) a *Quercus* species index, in which references contain serial numbers for all species and hybrids. Single copies are available from Pacific Southwest Forest and Range Experiment Station, 1960 Addison Street, Berkeley, CA 94704.]